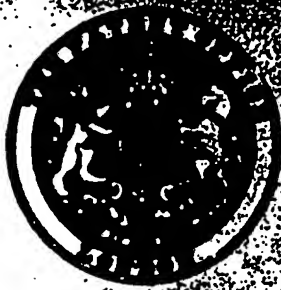


PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Rowing Apparatus

We, JOHANNES OSTENSJO & Co. A/S, a Norwegian Company, of Løsgaten 29, Haugesund, Norway, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to rowing apparatus of the kind comprising a substantially rectangular frame, preferably assembled from steel tubing, and fitted with a seat carriage, which can run on parallel side members of the frame and is connected to the front of the frame by a tension spring or springs, the apparatus being fitted with two handles which are each attached to a line running over pulleys journaled in the frame, and connected to further springs. By seating himself on the carriage and pressing the feet against the front part of the frame at the same time as he pulls in both of the handles, the person exercising can simulate a rowing motion. Rowing apparatus of this kind is, however, only useful for the single purpose and reasons of space and price will generally limit its usage to athletic clubs, gymnasia and so forth.

According to the present invention the seat carriage of rowing apparatus of the kind referred to above is removably attached to the front of the frame by a removable tension spring or springs and the apparatus also includes two handles each attached to a separate line which passes first round a pulley at the front of the frame, then round a pulley connected to the rear of the frame by a tension spring and then forwardly again so that the rear pulley is acted on by at least two runs of the line, the frame being shaped so as to be capable of vertical suspension from a wall. Accordingly the apparatus can be used either in a horizontal position as a rowing machine in the usual way or, after removal of the seat carriage and its associated spring

it may be mounted vertically for arm exercising.

Preferably the front part of the frame is provided with a cross bar which serves as a foot rest in the horizontal position of the frame and as a hand grip in the vertical position. The two lines conveniently run along the sides of the frame so as not to impede the user and the frame includes longitudinal ribs in addition to the side members, these ribs constituting a back support when the apparatus is vertically mounted.

A construction in accordance with the invention will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 is a plan view of the apparatus in horizontal position for use as a rowing apparatus;

Figure 2 is a side elevation of the apparatus shown in Figure 1; and

Figure 3 is an end view of the apparatus in vertical position, mounted for instance on a wall.

A frame 2 comprises longitudinally extending tubular elements 4 and 6, and a cross bracing 8 at the rear. A cross bracing in the front is in the shape of a transverse bridle or yoke 10 having a cross-rod 12 serving as a foot-rest when the apparatus is utilized as rowing apparatus, and as a hand-grip, when the apparatus is standing vertically.

The frame also includes cross-braces 36, 38 and 41 and longitudinal ribs 32 and 34 extending between these cross-braces and above them when the apparatus is horizontal. Lines 14 and 16 extend along both sides of the frame passing around pulleys 18 which are attached to the front of the frame, and pulleys 20 which are connected to tension springs 22, the rear ends of which are attached to the rear part of the frame. One end of each line 16 is attached to the front of the frame and the other end is attached to a handle 21 so

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that the pulleys 20 are acted on by a double run of line. By use of multiple pulleys the number of runs of line can be increased as required.

The frame carries a seat 24 forming part of a carriage provided with four wheels 26, each rolling on one of the frame elements 4 and 6. Detachable springs 28 extend between the carriage and the front of the frame to which they are attached by means of hooks 30. The seat carriage 24 including the springs and so forth can be simply fitted to and removed from the frame. Figure 3 shows the apparatus without the seat carriage mounted on a wall with the cross braces 36 and 41 attached to the wall by means of hooks 40.

In the vertical position of Figure 3 the apparatus is positioned at a level such that a person can suspend himself by the arms from the hand grip 12, for instance with the object to swing his legs upwardly in order to strengthen his stomach muscles. In this position his back will be spaced away from the pulleys 20 and the springs 22 by the location of the ribs 32 and 34. By utilizing a double purchase for each handle 21 a person with his back against the apparatus can attain a full arm swing first in the upward direction, and then right out and straight down keeping straight arms. Nevertheless, the same person can when the apparatus is utilized as a rowing apparatus attain sufficient power in the handles to imitate rowing force.

WHAT WE CLAIM IS:—

1. Rowing apparatus comprising a substantially rectangular frame having parallel side

members on which can run a seat carriage which is removably attached to the front of the frame by a removable tension spring or springs, and two handles, each attached to a separate line which passes first round a pulley at the front of the frame, then round a pulley connected to the rear of the frame by a tension spring, and then forwardly again so that the rear pulley is acted on by at least two runs of the line, the frame being shaped so as to be capable of vertical suspension from a wall, so that after removal of the seat carriage and its associated spring the apparatus may be used for arm exercising.

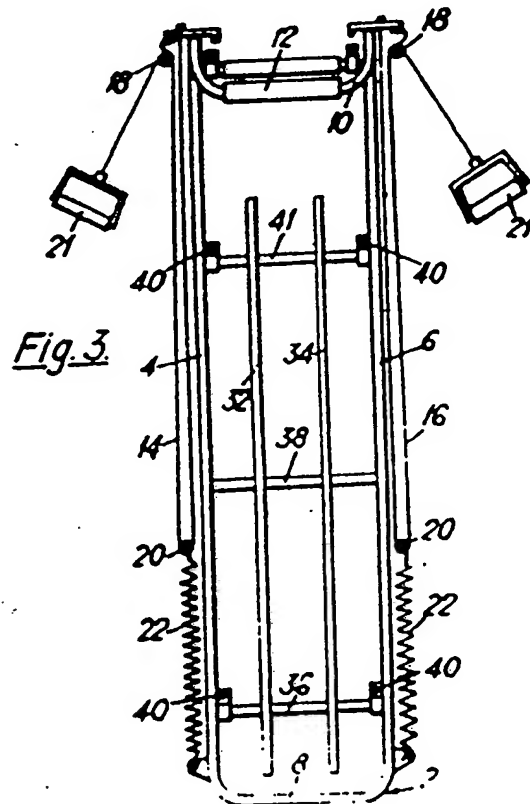
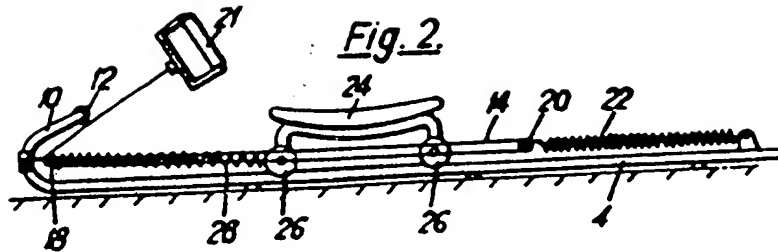
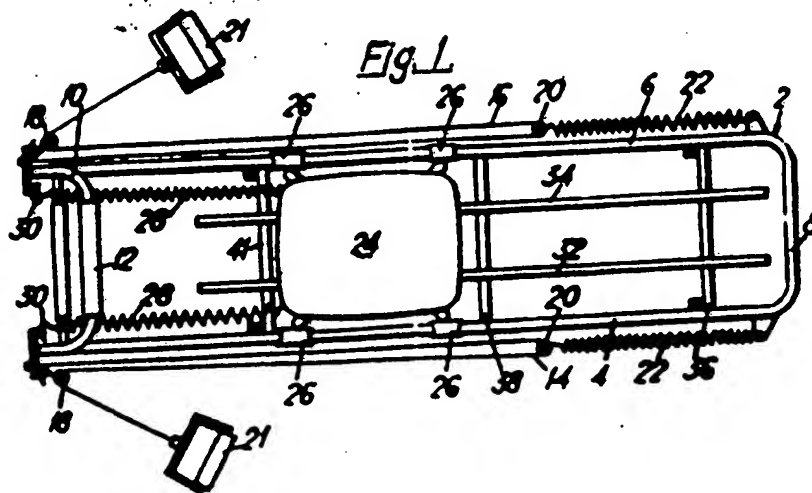
2. Apparatus according to claim 1, in which the front part of the frame is provided with a cross-bar serving as a foot-rest in the horizontal position of the frame and as a hand grip in the vertical position.

3. Apparatus according to claim 1 or claim 2, in which the lines run along the sides of the frame and the frame includes longitudinal ribs in addition to the side members, these ribs constituting a back support when the apparatus is vertically mounted.

4. Apparatus according to claim 3, in which the ribs lie above the remainder of the frame when in the horizontal position.

5. Rowing apparatus according to claim 1 substantially as described and as illustrated in the accompanying drawings.

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